



**Engineering
Standards
Data**

MICROWAVE ASSOCIATES, INC. SEMICONDUCTOR DIVISION

BURLINGTON, MASSACHUSETTS
Western Division: Two Burlington Street, Waltham, Mass. 02452

DIFFUSED
SILICON MESA
**COMPUTER
DIODES**



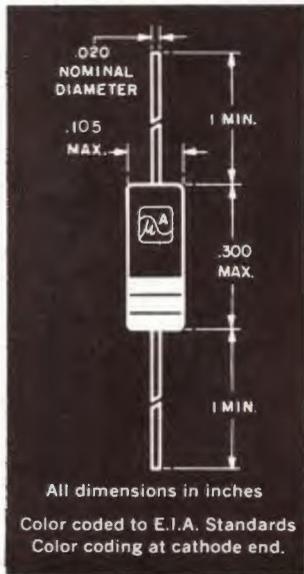
SUBMINIATURE, FAST-SWITCHING, LOW-CAPACITANCE SILICON DIODE

These diodes are designed for use in circuits requiring exceptionally fast recovery time and response. They are hermetically sealed in subminiature glass cases and have gold-plated, copper-clad steel leads that may be easily welded or soldered.

These extremely rugged diodes withstand the most stringent military environments and can be supplied to meet the most severe reliability specifications.

The reverse current characteristics make them an ideal choice in circuits demanding low leakage currents, especially where the accumulated leakage current from many diodes can cause circuit malfunction.

IN904



MAXIMUM RATINGS @ 25°C

	<u>SYMBOL</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
Forward Current Steady-State DC	I_F		100	mAdc
Peak Surge Current (1 sec.)	I_{surge}		250	mAdc
Reverse Voltage Steady-State DC	V_R		30	Vdc
Power Dissipation	P		250	mW
Operating & Storage Temperature Range	T	-65	150	°C
Derating above 25°C (free air)		1.5		mW/°C

ELECTRICAL SPECIFICATIONS @ 25°C

<u>TEST</u>	<u>TEST CONDITIONS</u>	<u>SYMBOL</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
Forward Voltage Drop	$I_F = 10.0 \text{ mA}$	V_F		1.0	Vdc
Reverse Current	$V_R = -30 \text{ Vdc}$ $T = 100^\circ\text{C}$	I_R	0.1	10.0	μA dc
Capacitance*	$V_R = -6 \text{ Vdc}$	C_6		1.0	pf
Recovery Time	$I_F = 10 \text{ mA}$ switched to $V_R = 5.0 \text{ Vdc}$ through 100 ohm loop to 1.0 ma.	t_{rr}		.004	$\mu\text{sec.}$

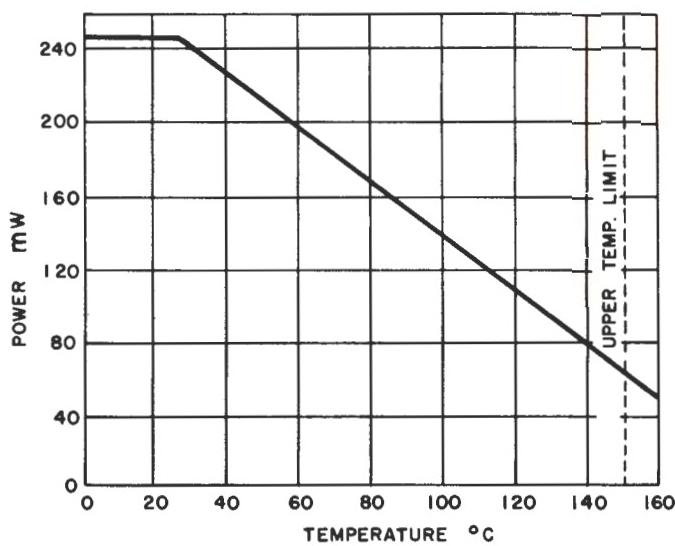
* Average case capacitance is 0.20 pf. Junction capacitance at zero bias is approximately twice that at -6 volts.

These specifications are in accordance with MIL-S-19500B.

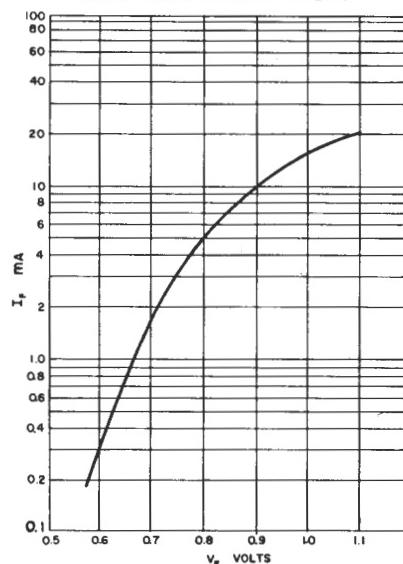
All specifications listed herein are subject to modification.

TYPICAL ELECTRICAL CHARACTERISTICS

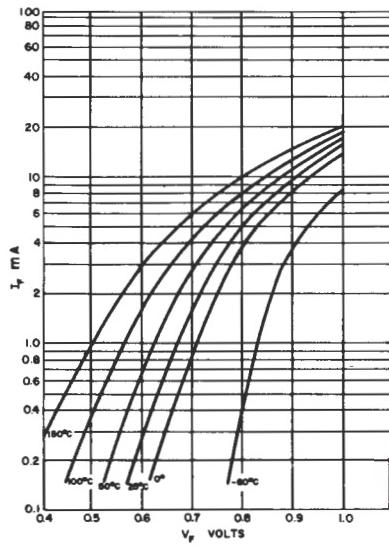
POWER DERATING



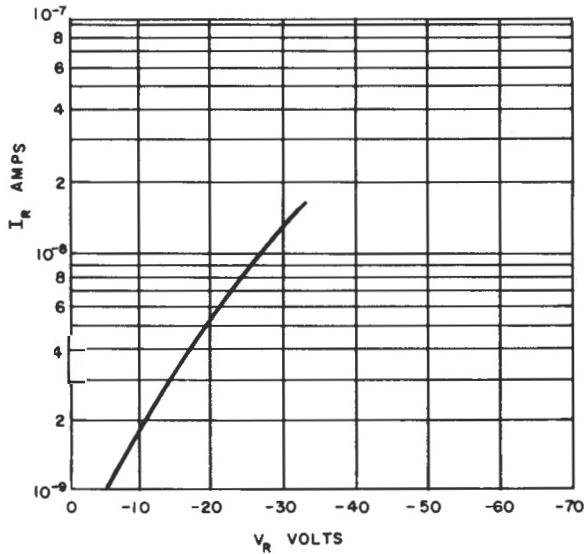
FORWARD CHARACTERISTIC AT 25°C



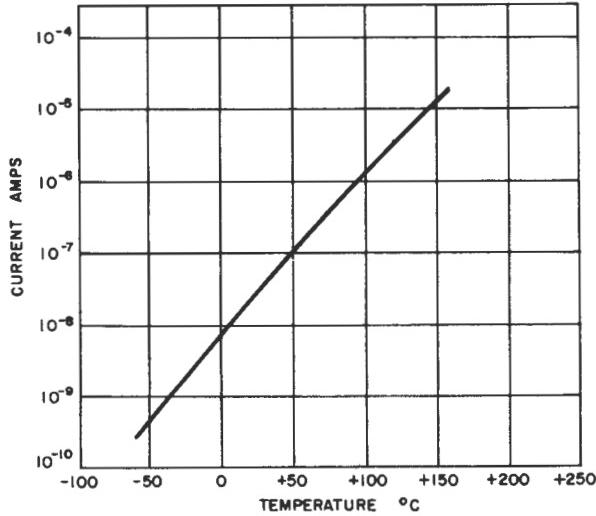
VARIATION OF FORWARD CHARACTERISTIC WITH TEMPERATURE



REVERSE CHARACTERISTIC AT 25°C



VARIATION OF REVERSE CURRENT WITH TEMPERATURE AT -30V



REVERSE RECOVERY TIME TEST CIRCUIT

